

IMPROVING SEPSIS CARE AT ST. LUKE'S HEALTH MEMORIAL HOSPITAL - LIVINGSTON

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INTRODUCTION

Sepsis continues to be the #1 cause of death in a hospital. In fact, 1 in 3 patients who dies in a hospital has sepsis. Initially, CMS created SEP-1 as a quality measure tied to hospital reimbursement. Now, CMS has tied SEP-1 to a hospital's star rating, and it's publicly reported.

SEP-1 compliance requires adherence to a set of measures that are completed at 3 hours and 6 hours from initial presentation. Determining the start clock for these measures becomes very tricky, and the simple truth is we just need to perform as quick as possible for our patients!

In FY21, Livingston's SEP-1 compliance was 55%, the lowest in the Texas Division.

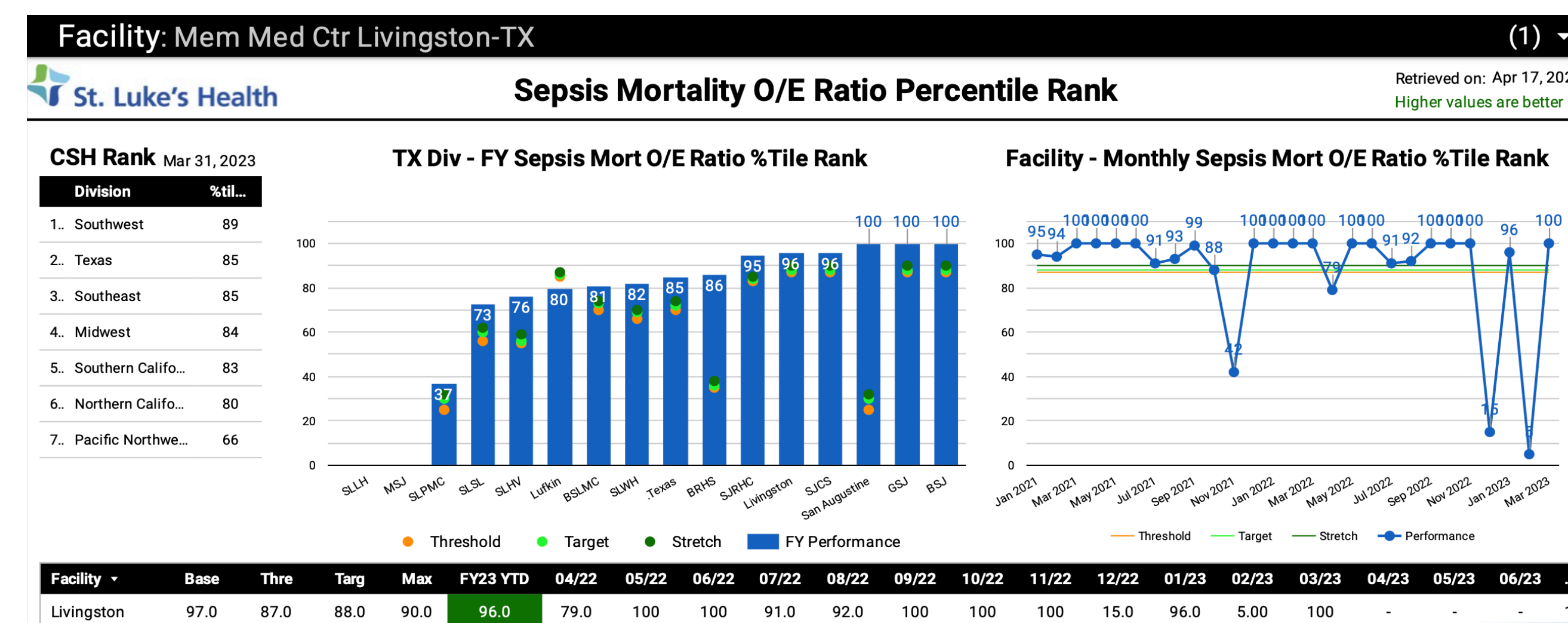
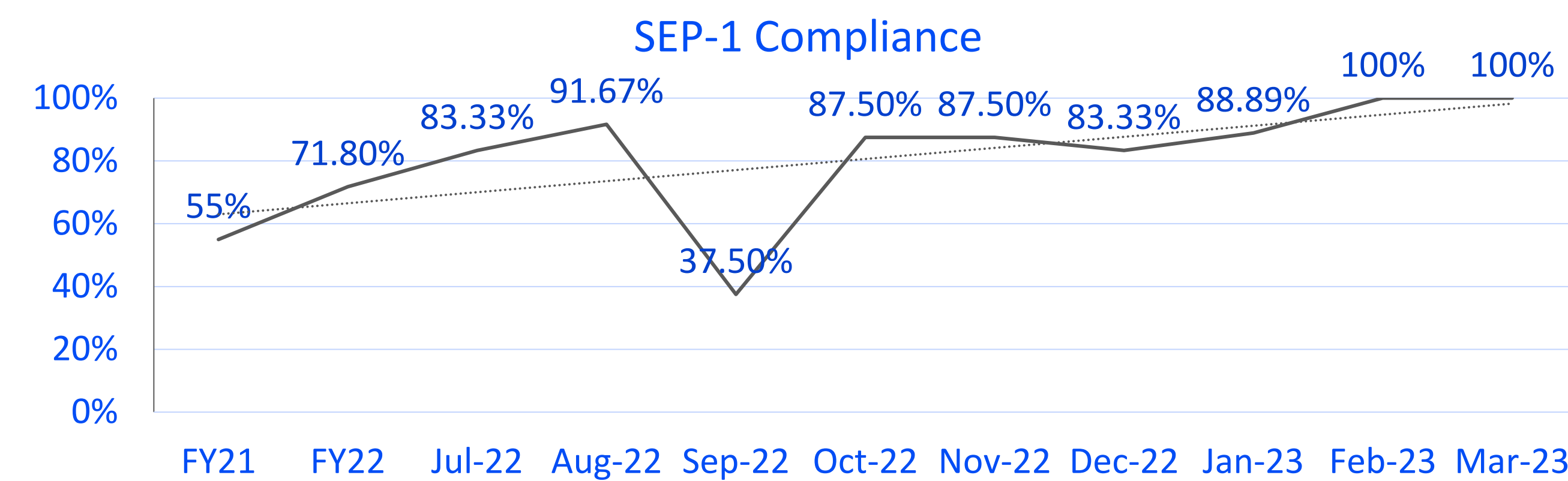
PROCESS CHANGES

Livingston hospital has a difficult-to-use electronic medical record in Paragon. While labs and imaging orders can be placed electronically, medications and IV fluids must still be hand-written.

We created a sepsis screening order set in Paragon, followed by a paper order set for IV fluids, antibiotics, and vasopressors.

While we review SEP-1 performance in every staff meeting, we also needed to move forward to concurrent review of cases, to ensure compliance with the CMS documentation guidelines.

DATA



CONCURRENT REVIEWS

While education is ongoing and needed, adding the ability to perform concurrent reviews was essential. We transitioned to reviewing cases within 24-48 hours of admission. One opportunity is the need for recurrent education around the administration of 30 cc/kg of IVF based on ideal body weight for patients with BMI greater than or equal to 30. Similarly, education with nurses is happening around documenting height in the EMR.

Additionally, excluding patients from receiving 30 cc/kg needs to be documented in a specific way, and an alternative amount of fluids other than zero must be given. We created an appropriate exclusion statement for our paper order set, which can be uploaded into the electronic medical record.

EDUCATION

Education was done multiple times a week with nurses focusing on drawing blood cultures early and questioning providers if they found IV antibiotic orders without the corresponding order for blood cultures.

For severe sepsis, reminders to use the sepsis screening order set is one of our opportunities. The majority of this fiscal year's fallouts are related to no repeat lactate being done in time, and it's usually because we didn't order it.

For septic shock, documenting a timestamped sepsis reassessment exam is our challenge. We remain focused on performing a reassessment exam for any patient that meets the definition of severe sepsis.

CONCLUSION

Spending the time necessary to dive into the CMS abstraction manual and understand the nuances of the measure have allotted us the opportunity to show success! We believe the improved SEP-1 compliance has also led to reduced sepsis mortality!

With the continued ED and hospital focus on SEP-1 performance, Livingston has had year over year improved compliance moving from **55% in FY21 to 71.8% in FY22, to 84.4%** thus far in FY23. We are currently ahead of our stretch goal of 82%!

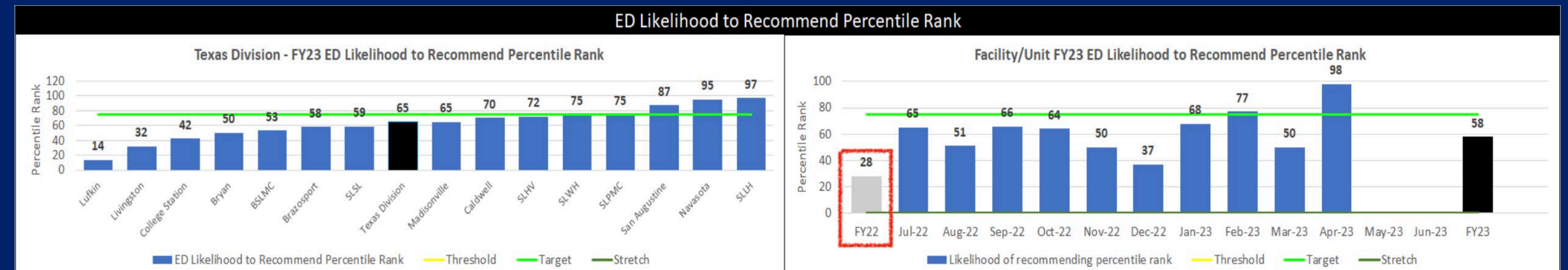
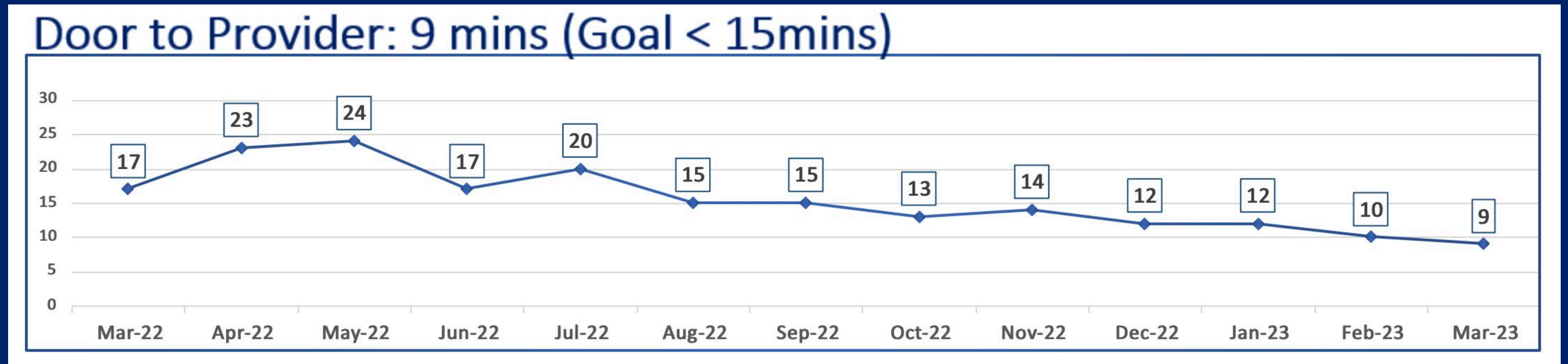
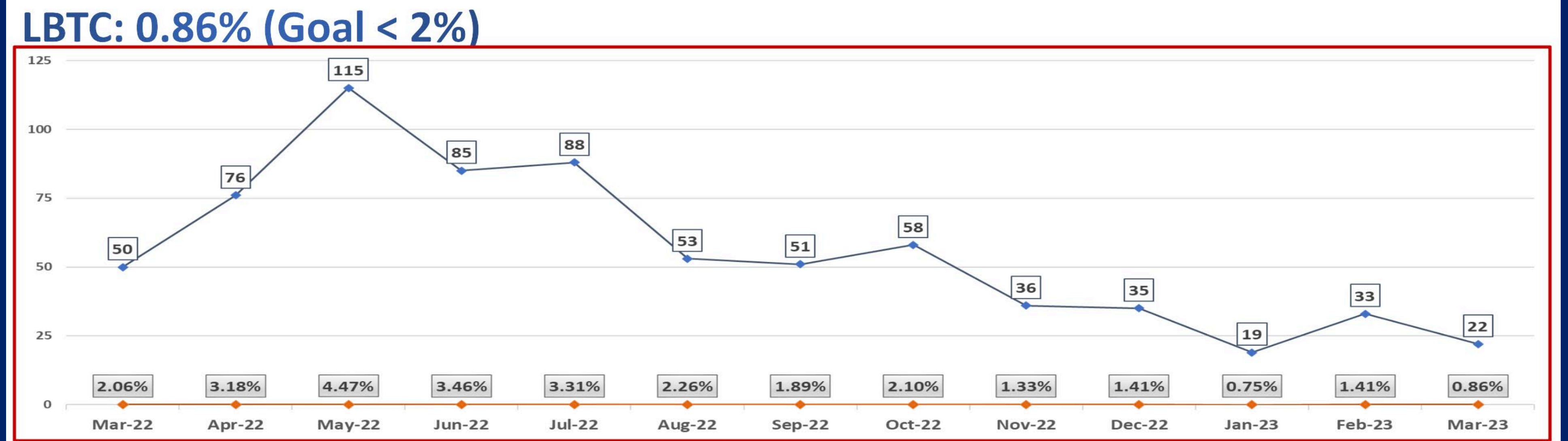
INTRODUCTION

- The nursing shortage and a steady increase in patients visiting the emergency room for care has led to a high number of inpatients boarding in the Emergency Department. This is a national problem and is directly affecting the throughput in our ED. With inpatient holds taking up rooms in the Emergency Department, we saw a need to create more space and aggressively evaluate patients from the lobby.
- It is time to break the “it’s always been this way” cycle.

METHOD

- Staff was educated on front end improvement process that would enable us to greet and treat every patient that presented to us seeking Emergency Medical care.
 - Patients evaluated in triage, “diagnostic waiting” chairs, and empty rooms that were unstaffed due to nursing shortage.
 - Patient Passports were presented at registration and filled out by each provider/nurse/tech that were involved in the patient’s care. This educated patient on testing that was being done and estimated wait times for each.
 - Orders were entered and implemented by nursing staff/techs
 - Patients educated on diagnostic results and disposition made regardless of bed availability.
- Front end process changes reiterated in each monthly meeting and time allowed for questions, concerns, feedback and recommendations.
- Leadership led by example by putting the new process into action.
- Monthly provider metrics were shared during our monthly provider meetings
- Results were tracked using the divisions data hub

RESULTS



CONCLUSION

- We have seen an improvement in throughput, patient experience and quality in our Emergency Department after implementing these changes.
 - Door to provider time decreased from 28 minutes to 9 minutes.
 - LBTC has decreased from 5.96% to 0.86%.
 - Likelihood to recommend has increased from 28th to 65th percentile.
- Physicians and Advanced Practice Providers now compete to sign up for patients first.
- More of the patients seeking emergency medical care in our department are getting evaluated and treated. This is all being accomplished faster than before without compromising quality or patient satisfaction.
- Next Steps: Add productivity component to physician and APP pay to reward change and productivity

REDUCING BLOOD CULTURE CONTAMINANTS IN A COMMUNITY HOSPITAL

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INTRODUCTION

- Contaminated blood cultures may lead to:
 - Unnecessary antibiotic use
 - Resulting in resistant organisms and potential adverse drug events
 - Prolonged length of stay
 - Unnecessary repeat laboratory studies
 - Increased hospital costs
 - Estimated hospital cost per patient ~\$6,775/patient
 - Poor patient experience and/or outcomes

PROCESS

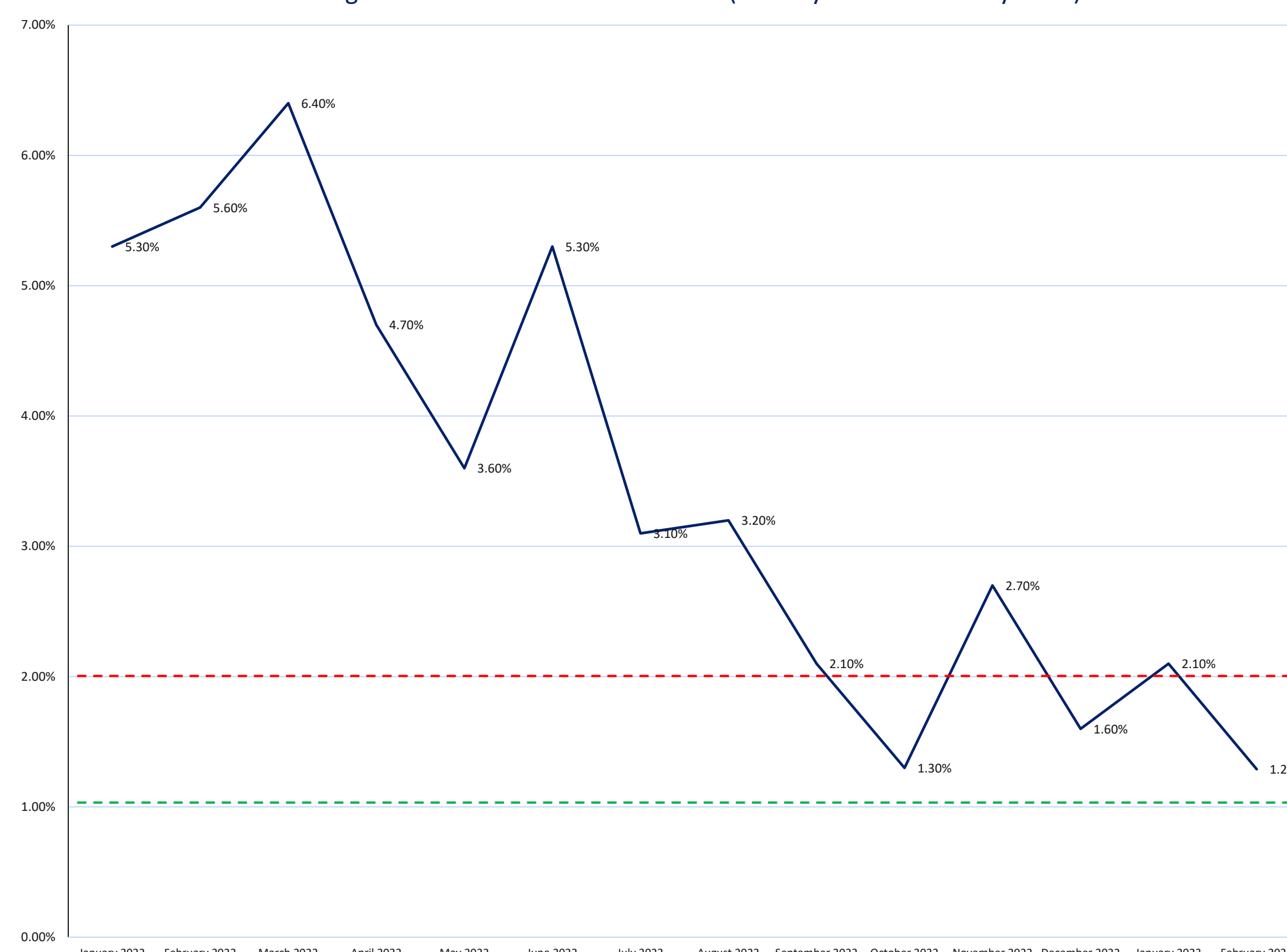
- Prior to July 15, 2022
 - Who collects?
 - No designated person = RN or phlebotomist
 - From where?
 - No designated line = could draw from central line, catheter, venipuncture
 - Process?
 - No diversion device
 - No regulation on the use of a blood culture prep-kit

PROCESS

- After July 15, 2022
 - Who collects?
 - Designated person = phlebotomist on floor, RN in ED
 - From where?
 - All blood cultures must be obtained from a new venipuncture butterfly needle
 - Process?
 - Diversion device now used to divert skin plug away from the culture tube prior to the sample being collected
 - Blood culture prep-kit prepared by lab must now be used

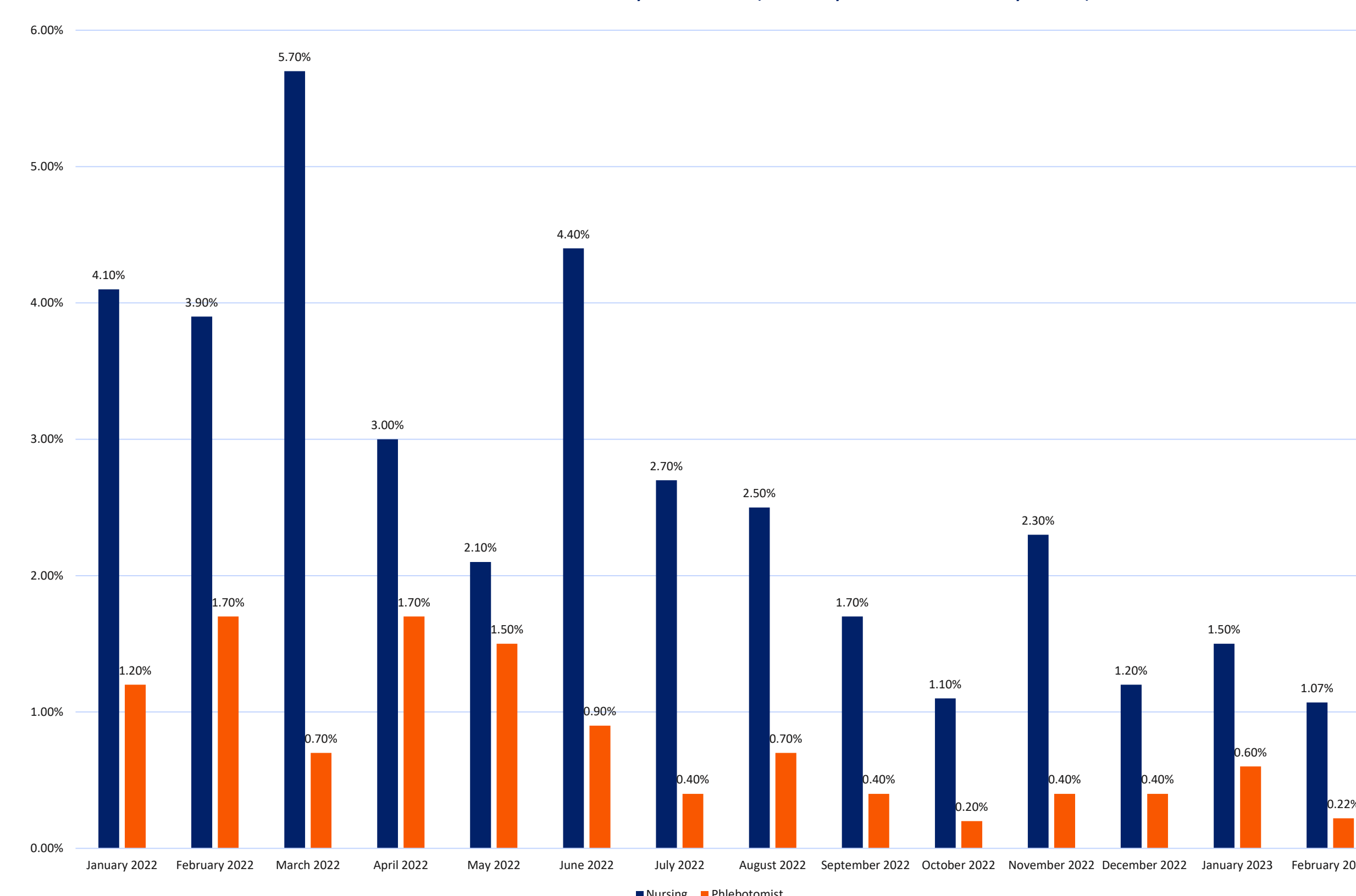
RESULTS

Percentage of Blood Culture Contaminants (January 2022 – February 2023)



RESULTS

Blood Culture Contaminant by Collector (January 2022 – February 2023)



CONCLUSION

- The process used in this quality improvement project was effective in reducing blood culture contaminants
- Over the course of 14 months, the monthly contamination rate reduced from 5.30 % to 1.29 %
 - Blood culture contamination rate was reduced ~ 75.66 %
- Phlebotomist were about 3 times less likely to have blood culture contaminations when compared to RN
 - RN average = 2.66 %
 - Phlebotomist average = 0.79 %

RISING ABOVE DOWNTIME: A REVIEW OF THE LOWS

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Emergency Department, CHI-St Luke's in the Woodlands & Houston Northside HOPDs

INTRODUCTION

Electronic Medical Records (EMRs) are so integral to our daily work and communication in the emergency department (ED) that even experiencing a 30-minute period of downtime can disrupt workflow and instill panic amongst staff and peers. In October 2022 we experienced 18 days of EMR downtime forcing us to quickly identify key problems and create solutions on-the-go to still maintain an optimal and functional ED. This review acts to:

- identify our greatest challenges encountered
- reflect on our initial responses
- detail our preparations for future occurrences

METHOD

Data was gathered anecdotally through the IES Woodlands Leadership Council, nursing leadership, and departmental leaders of CHI-St. Luke's in the Woodlands Hospital. Observations from the ED perspective were documented throughout the entirety of the 18-day EMR downtime in October 2022. Solutions have been and continue to be reviewed and analyzed by the IES Woodlands Leadership Council, CHI Houston Leadership team, and CHI-St. Luke's representatives.

RESULTS

Paper Documentation

- Outdated and handwritten forms
- Lack of compatibility between departments
- Difficulty tracking recent visits

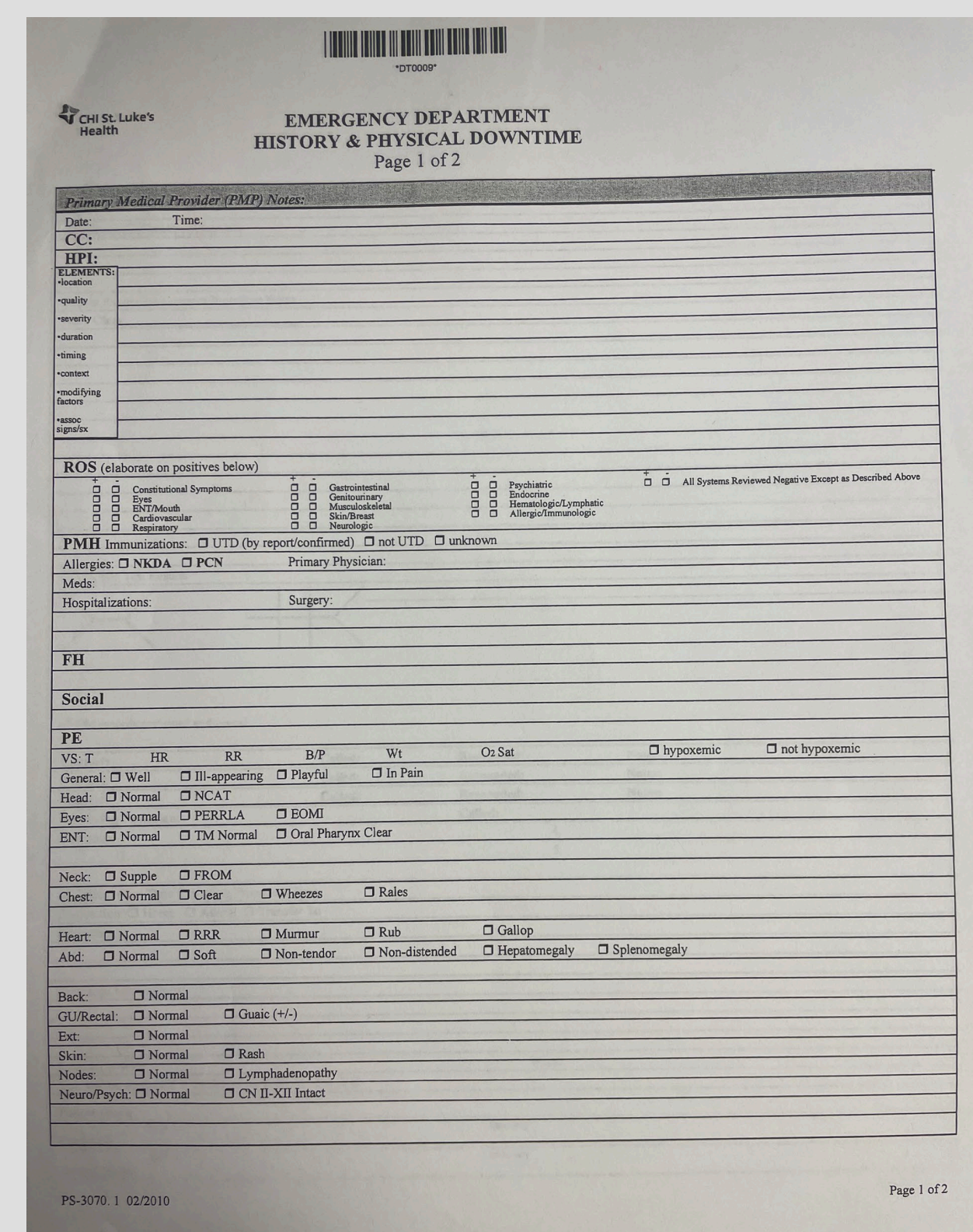


Figure 1a: Original downtime H&P.

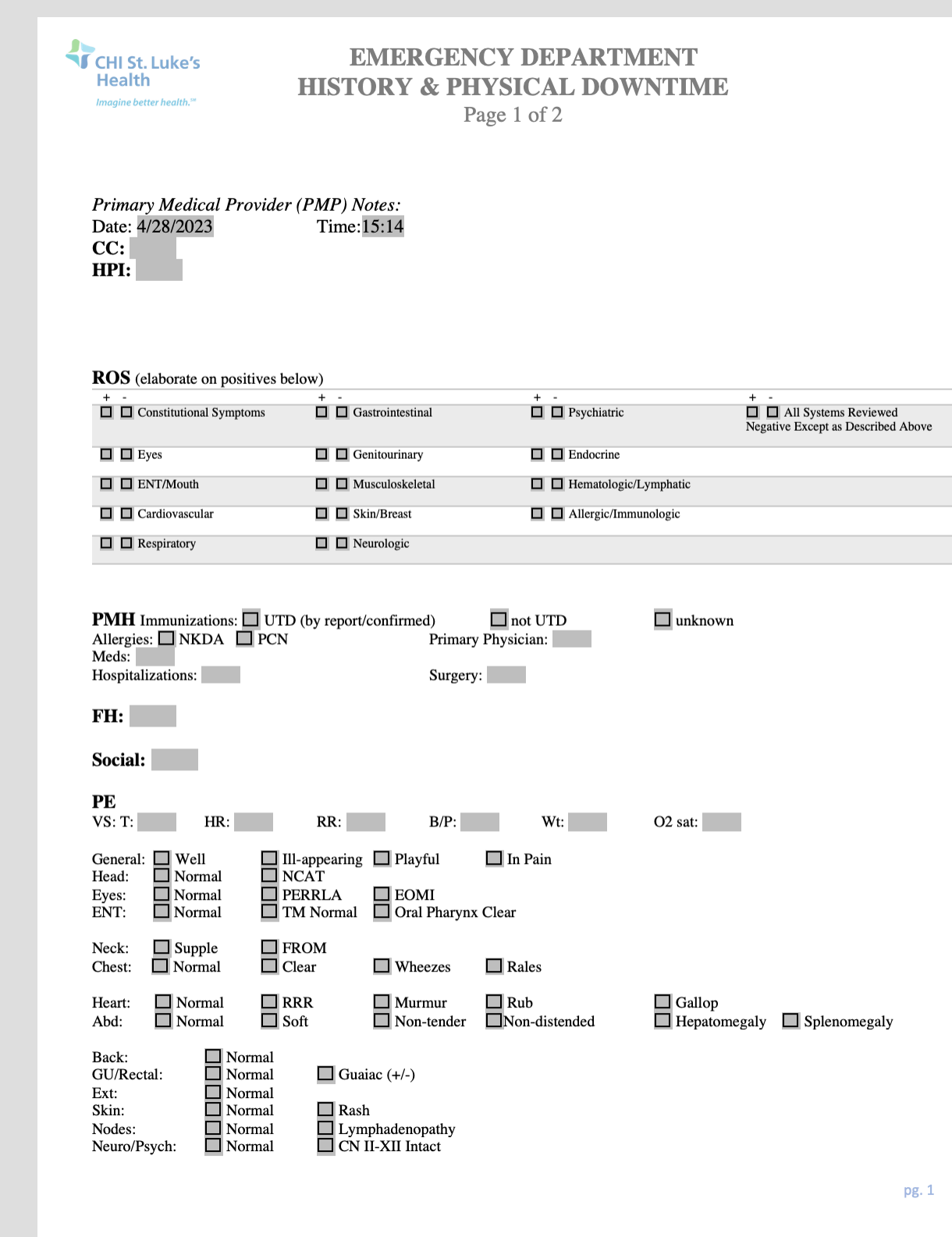


Figure 1b: Created typeable H&P

Mixed Intercommunication

- Wide variability in physician-nurse interactions
 - i.e. whiteboard track board, paper versus oral orders, clipboard communication
- Interdepartmental difficulties
 - i.e. incompatible forms, separate and unshared records

Post-Downtime Recovery

- Months needed to catch up on linking paper charts to EMRs
- Billing impacted by paper records
 - Lack of level 5 chart points typically documented by EMRs

DISCUSSION

Improved Downtime Templates

- Easier offline documentation to maintain provider efficiency
- Ease of compliance with 2023 MDM guidelines

New Interhospital Protocols

- Universal system amongst departments and staff
- Proper education throughout hospital for future downtimes

Daily Record Maintenance

- End-of-day data and documentation collection and review versus end-of-downtime

CONCLUSION

While the recent downtime revealed flaws in our protocols and systems, we have made and continue to make improvements in our downtime plans. These solutions will require continued reassessments and changes as EMR downtime will always remain a dynamic problem. Yet we feel confident that with our newly increased focus on downtime and proposed solutions, we can maintain an efficient and less stressed department for future times without an EMR and hope others can learn and make better preparations from our experiences.

VALUE OF AN ED STEERING COMMITTEE AT ST LUKE'S HEALTH – MEMORIAL HOSPITAL – LIVINGSTON

Joe Young, DO, FACEP, Monica Smith, RN, Kristi Froese, RN, BSN, MHA

INTRODUCTION

Our LBTC (left before treatment complete) percentage for FY22 was 8.19%. LBTC is a national metric tracked by the ED Benchmarking Alliance. For EDs with a volume between 20,000 and 40,000 patients a year, 8.19% is worse than the 10th percentile across the country.

We sought to focus on improving LBTC using our ED Steering Committee, which meets monthly. Having an ED steering committee is considered a leading practice within Commonspirit Health. We track and breakdown LBTC daily. We discuss turnaround times for radiology, lab, length of stay for admissions and discharges, reasons why RN to RN handoff for admissions were not completed within 15 minutes, RN staffing, transfers, and more!

MEASURES

CT Turnaround Time – implemented ACR guidelines to reduce the # of patients needing to wait on creatinine results prior to IV contrast studies. A new radiology group also took over reading our studies.

Door to Provider – shared unblinded performance data with each provider and educated to the importance of seeing patients in the waiting room early to expedite care.

LBTC – daily deep dives are done on the patients that leave without being seen, elope, and leave against medical advice to determine opportunities for improvement.

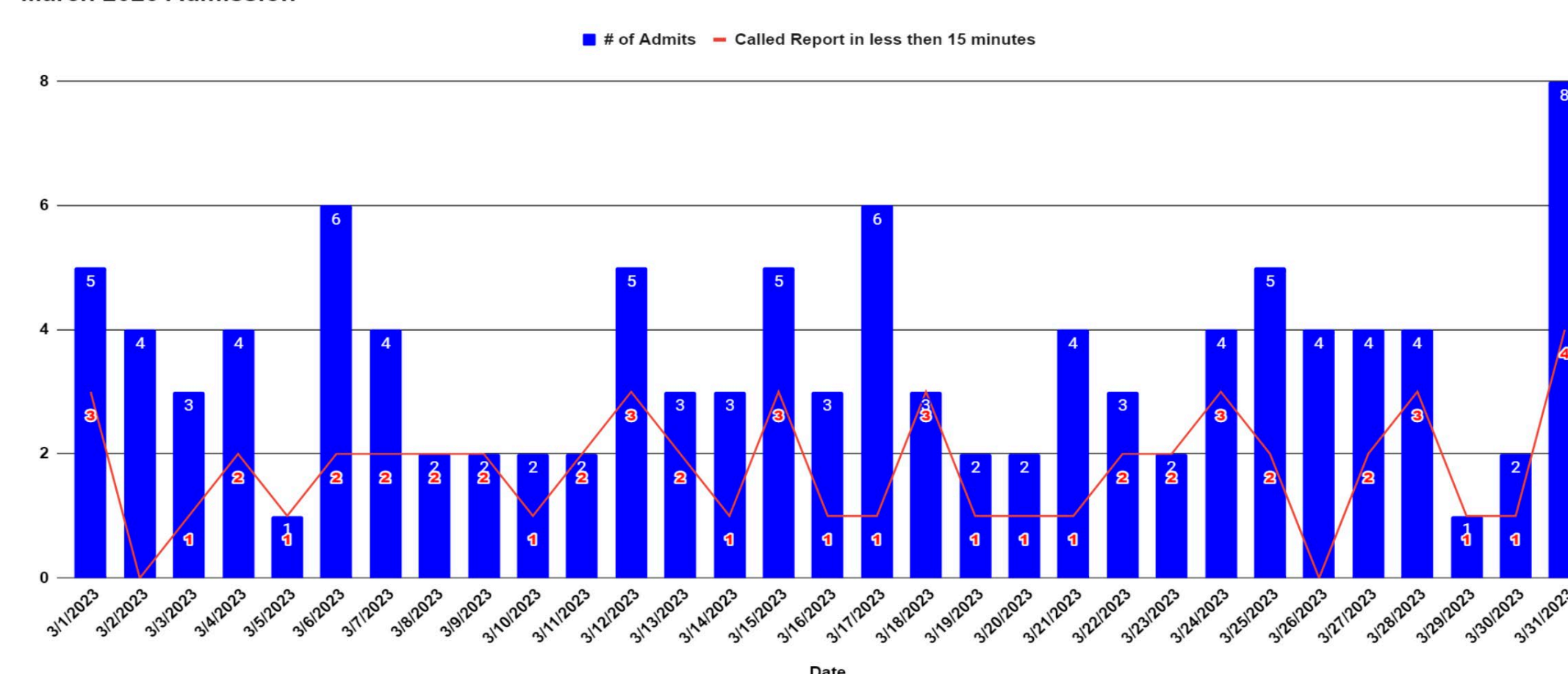
DATA

	Jul-22	Aug-22	Sept-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	YTD	FY22
ED Visits	2123	2196	2022	2121	2117	1965	1917	1739	1926	18126	24178
Overall LOS	162 min	179	173	171	161	160	156	157	161	149	163.00
DC LOS	143 min	179	173	171	161	160	156	157	161	149	163.00
Transfer LOS	445	406	399	381	397	401	365	364	396	394.89	564.5
Total Transfers	167	148	138	132	143	156	158	125	166	1333	1649
Admit LOS	240 min	317	316	301	312	303	276	293	288	285	296.78
Total Admits	100	134	123	132	116	99	124	98	108	1034	1200
Admit % of Visits (Conversion Rate)	4.71%	6.10%	6.08%	6.22%	5.48%	5.04%	6.47%	5.64%	5.61%	5.70%	4.96%
Door to Provider	20 min	11	9.5	9.5	10	10.75	9.5	13	14	12.5	11.08
Arrival to Bed Assignment	10 min	16	18	15.75	16	19	15.5	14	15	15.5	16.08
LPT	15	24	21	19	20	14	11	6	11	141	481
LPT %	0.00%	0.71%	1.09%	1.04%	0.90%	0.94%	0.71%	0.57%	0.35%	0.57%	0.78%
LWBS	111	70	102	68	59	42	57	40	31	580	1261
LWBS %	1.50%	5.23%	3.19%	5.04%	3.21%	2.79%	2.14%	2.97%	2.30%	1.61%	3.20%
AMA	19	24	16	20	14	14	17	14	23	161	238
AMA %	0.50%	0.89%	1.09%	0.79%	0.94%	0.66%	0.71%	0.89%	0.81%	1.19%	0.89%
LBTC	145	118	139	107	93	70	85	60	65	882	1980
LBTC %	2.00%	6.83%	5.37%	6.87%	5.04%	4.39%	3.56%	4.43%	3.45%	3.37%	4.87%
Decision to DC	15 min	32.87	31.1	33.4	28.9	26.8	27.94	28.81	30	28.5	29.81
Decision to Admit	60 min	137	134	128	137	127	115	110	100	103	121.22

	LBTC	Times	Reason	Staffing/Issues	Deep Dive	# Pts checked in	LBTC without AMA counted
3/3/2023	11.54% (9)	Bechtel/Paz/Nguyen Lukonovich/Cella		*7a-7p Colby Charge, 3 staff; Nurse from 10-7p; 7p-7a Latisha Charge, 3 staff	Time of Arrival: 12a-7a (8); 7a-1p (24); 1p-7p (31); 7p-12a (15)	78	8.97%
LWBS	7	1625-1655 1737-2048 1745-2053 1745-2053 1907-2230 2028-2234 2036-2230	left after 30 mins		*3 admits with AVG LOS of 301; 10 transfers with AVG LOS of 647; 15+ patients that were discharged with LOS greater than 4 hours *1 with LOS of 1029; 1 with LOS of 972 all transfers had LOS greater than 4 hours *diversion from 2200-0000 due to 9 transfers with no trucks available at the time to transfer		
AMA	2	1544-1805 1623-2237	pt left AMA. AMA form states "I don't have time to wait 1-2 hours for US, prescription was given to pt pt did not want to be admitted. ER MD note states "pt upset and anxious for not having childcare for her grandchildren that she takes care of and wants to leave AMA"				

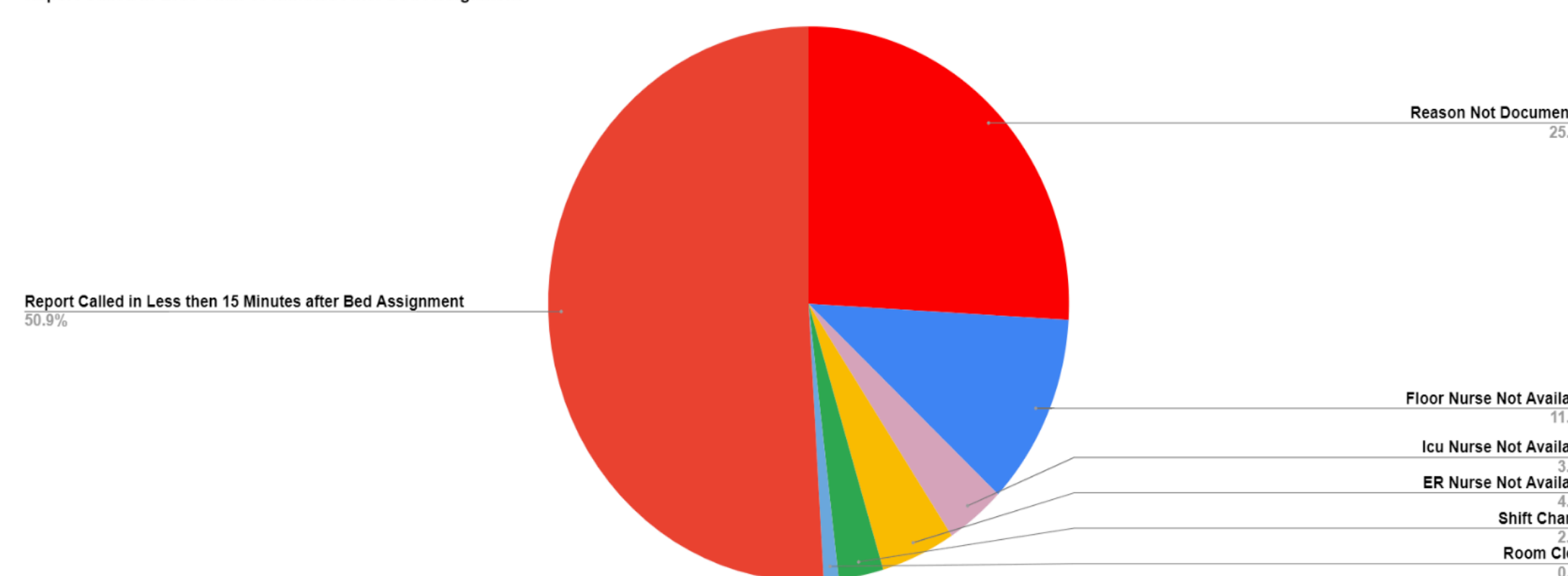
DATA

March 2023 Admission



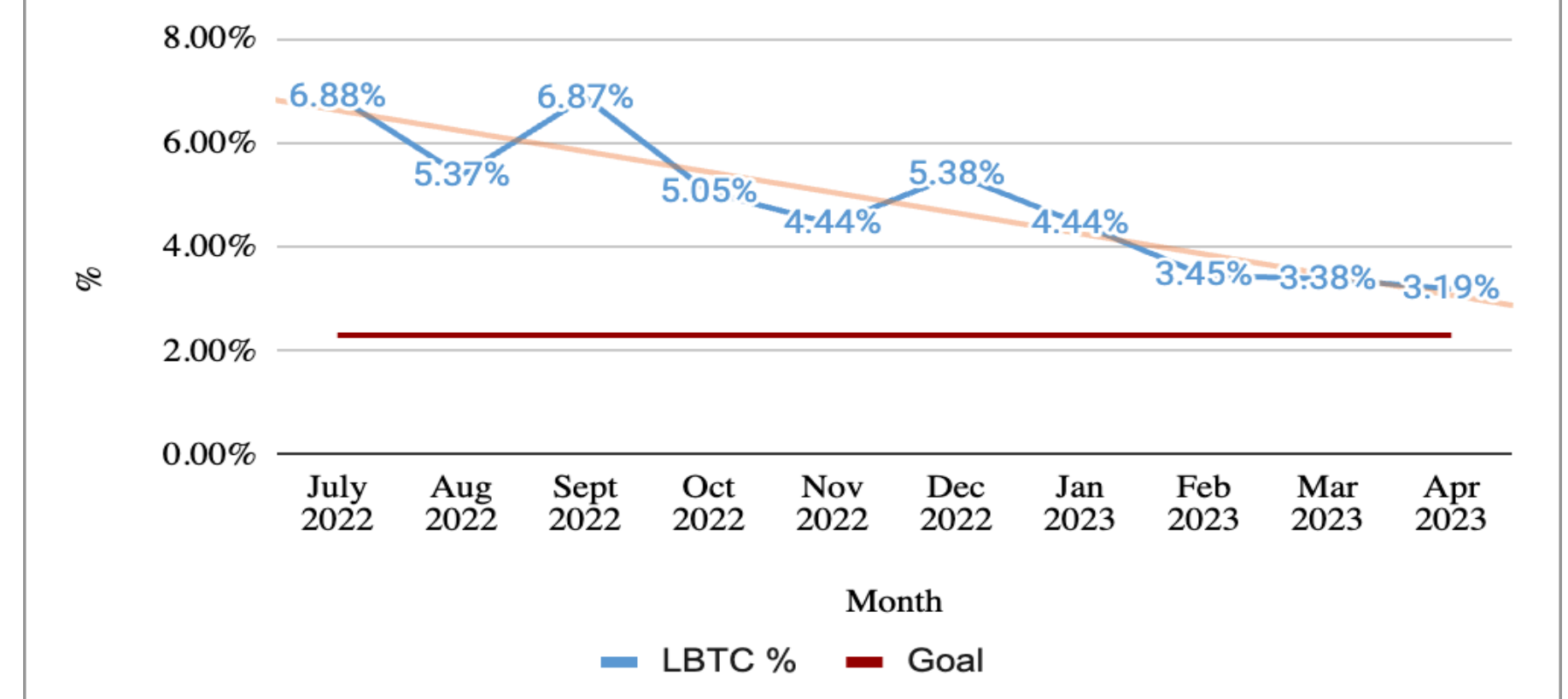
March Admissions

Report Called in Less Than 15 Minutes After Bed Assignment

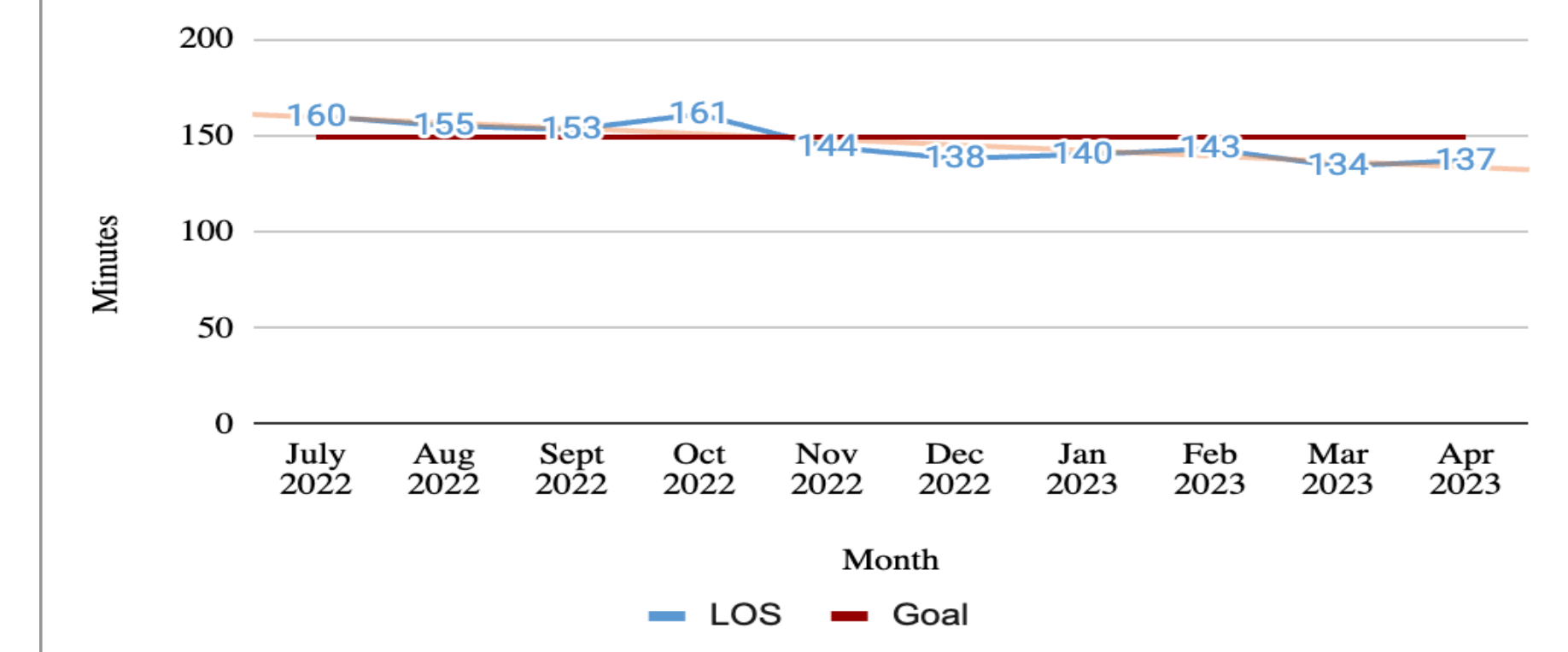


RESULTS

LBTC % - Livingston



LOS (Discharges) - Livingston



Through the committee's detailed discussions around specific improvement opportunities, LBTC is at 3.75% over the last quarter. Every metric we track has improved, including admission, discharge, and transfer length of stay.

CONCLUSION

An ED Steering Committee is an effective and simple way to effect ED throughput. It's vital to include members who have the power to make decisions and implement action plans. The overarching goals of the committee are to improve ED throughput, patient experience, and staff satisfaction. We will continue to improve in all facets of care at Livingston!